

From: Kathleen Van Velsor [<mailto:KathleenV@abag.ca.gov>]
Sent: Friday, September 29, 2006 9:20 AM
To: Svetich, Ralph
Cc: Jeanne Perkins
Subject: RE: DRM

Ralph:

Here are preliminary comments on the available documents. Thank you for your note.

Kathleen Van Velsor
Senior Environmental Planner/
Program Manager: Water and Land Use Planning Studies Association of Bay Area Governments
101 Eighth Street, Oakland, CA 94607-4756
510-464-7959 FAX: 510-464-7970 www.abag.ca.gov KathleenV@abag.ca.gov

**Preliminary Comments on Delta Risk Management Strategy Initial
Technical Framework Papers
Association of Bay Area Governments, 9/29/06**

Flood Hazard

This technical framework paper notes that the duration of flooding will be included in the analysis. We agree that flooding duration is a major factor in estimating flooding hazard and subsequent levee failure potential.

Probabilistic Seismic Hazard

This technical framework paper relies heavily on a combination the USGS Working Group on California Earthquake Probabilities (2003) and other updated information. While the paper is technically valid, the paper does not discuss that this risk is primarily a ground failure problem triggered by shaking (generating liquefaction-induced flow slides or seismic deformation). Some current landslide and liquefaction research points to velocity, not peak acceleration, as the critical determinant for failure due to the shaking duration component. While peak velocity (or other measure of velocity) can be derived from the type of analyses proposed, it is not clearly described.

Levee Fragility

This technical framework paper correctly notes that the seismic risk to levees has two sources: (1) liquefaction-induced flow slides and (2) non-liquefied seismic deformation. The review of current literature is appropriate and reasonably comprehensive. Our principal concern is that there needs to be a greater emphasis on duration of various acceleration levels, pointing to a need for great emphasis on use of measure of shaking with a time duration component. The paper correctly notes that “However, when a full characterization of flow failure and lateral sliding are required, a time-domain non-linear analysis will be performed.” We believe that such analyses are critical, and should be described as a “However” afterthought.

Emergency Response and Repair

The analysis described in this technical framework paper is limited to emergency repair of the levees. It does not cover other emergency response and management issues, including evacuation and infrastructure repair. Thus, it should be renamed “Emergency Repair of Levees” or something more in line with its scope.

Economic Consequences

No comment.

Subsidence

No comment.

Geomorphic Response

No comment.

Risk Analysis

No comment.

Upstream Reservoir Management/Delta Water Operations/Delta Island Water Use

Section 3.0 describes initial flooding as an operational issue. It would be helpful to distinguish between wet weather flooding events and dry weather inundation when river flows exhibit a different condition. This will influence initial mixing and salinity concentrations.

Will the flushing of channels with additional reservoir releases (to counteract high salinity water) move large volumes of sediments into the water column? Is it likely to cause channel deepening with possible scour impacts to infrastructure? Will the flushing increase the number of constituents of concern, adding to delays in restoring water pumping plant operations?

“Levee repair” (Section 3.0) describes a priority repair scenario that values Delta island agriculture and water exports (uses that are particularly sensitive to restoration of water quality). Please clarify if these are water exports to Southern California or all water exports.

Regarding supplementary independent variables, we commend the use of at least three types of water years. Will the model also take in account El Nino and similar climatic events?

Appendix B does a good job of capturing the difficult choices facing operations managers during the occurrence of a levee failure. An emergency monitoring program for affected Delta species may assist in the critical operational decision making stage.

More public comment time would be required to provide informed agency and public comment on the remainder of this section, and other sections of the Initial Technical Framework documents.

Assessing Effects of Climate Change on Flood Risk in the Sacramento-San Joaquin Delta

Regarding increased flood frequency and levee failure in the Delta, we note that more intense daily precipitation events consequential to increased atmospheric greenhouse gases may be compounded in their effect by the addition of many more square miles of impervious surface in the fast growing Delta counties and their communities.

Wind Waves

No comment

Infrastructure

The description of foundation support systems (deep versus shallow foundations) does not take into account the effect of sudden and significant scouring events associated with massive inflows of water from levee breaches. For example, we are informed that the Mokelumne Aqueduct, while founded on a deep foundation, may nevertheless be vulnerable to impacts associated with scouring.

Contact information: Jeanne Perkins, Earthquake/Hazards Program Manager Jeanneperkins@abag.ca.gov, and Kathleen Van Velsor, Water and Land Use Studies Program Manager, Kathleen.v@abag.ca.gov